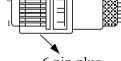POSIFLEX

Aura Series
(PP-7000-III / PP-7000U-III)
THERMAL PRINTER
TECHNICAL INFORMATION
A. INTERFACES
1. Peripheral interface

The connector for peripheral control is a 6P6C RJ11 jack with the following pin assignment. The best recommended cash drawers to this connector are Posiflex CR3100, CR3200, CR4000 and CR4100. Using the cable 20863018001 (CCBLA-180-1) delivered with the cash drawer, the Aura series can control one dedicated cash drawer. However, by using an optional split cable 20867023800 (CCBLA-238), Aura series controls two cash drawers through this connector. Please connect the CR1 plug to the cash drawer (CRA) to be opened by command Esc p 1 n1 n2 and the CR2 plug to the cash drawer (CRB) to be opened by command Esc p 0 n1 n2

6   1

6P6C RJ11 jack

6
1

6 pin plug

PIN #	Definition	Description
1	FG	Frame ground
2	CRB	Drawer kick for cash drawer controlled by software command Esc p 0 n1 n2
3	SENSE	Input peripheral status
4	VCC	+ 24 V DC supply
5	CRA	Drawer kick for cash drawer controlled by software command Esc p 1 n1 n2
6	SG	Signal ground

B. SETUP WINDOW

On bottom cover of the Aura series thermal printer, there is screwed a metal plate for setup window. In this window, there is a 8 position DIP switch for printer setup. Please use proper tool to change the switch setting when necessary. The switch position counting starts from the nearest edge of printer. The ON direction points to the connector area of the printer. The OFF direction points to the power switch. The functions of each position may evolve with the revisions of the firmware. The information below applies to the latest version to the date of print of this manual.

This 8 position DIP switch works as following:

Switch position	ON	OFF
1	RS232 baud rate definition or Parallel interface definition	
2	(ref. separate table below)	
3	Even parity	None parity
4	XON handshaking	Hardware handshaking
5	Busy on "buffer full"	Busy on "off line"
6	Immediate cut	Protective cut
7	CR code effective	CR code ineffective
8	Factory internal setting	Application standard mode

Effect of positions 1 & 2 on baud rate is defined as in table below with parity check set according to position 3, number of data bits always set to 8, and stop bit set to 1. When the parallel interface is used, please set both positions to ON.

SW Pos. 1	ON	OFF	ON	OFF
SW Pos. 2	ON	ON	OFF	OFF
Baud rate or Interface	38400 bps / (Parallel)	4800 bps	9600 bps	19200 bps

Switch position 3 defines the parity check regulation in serial interface. In Aura, it is selectable between even and none.

Switch position 4 defines the handshaking method in serial interface. When it is set to ON, the printer transmits an "XOFF" for busy and sends an "XON" for not busy. When it is set to OFF, the printer signifies the busy status over hardware signals that can be detected by the host as "DSR" or "CTS". When parallel interface is used, both switch positions 3 and 4 should be set to OFF.

For switch position 5, if the switch is set to ON, the busy signal is sent to host only when input buffer is full. When it is set to OFF, busy signal is sent to host whenever an off line status occurs. Therefore, signals including the paper near end detect will generate busy signal to the host. Consequently, the printing may be stopped even when there is still a long way to go before the paper roll is actually exhausted. Taking the paper out beep into consideration, the printer will keep on beeping at Paper End (completely no paper) till paper is replaced when S1-5 is ON. Yet when S1-5 is OFF, the printer will keep on beeping every 3 seconds at Paper Near End (still long paper in replace) till paper is replaced.

For switch position 6, when it is set to OFF, there will be a 20 mm paper feed before cutting when software does not define this point and there will be further 10 mm paper after cutting to prevent paper jam. Before setting this switch to ON, please make sure that your software will take care of enough paper feed for the paper jam prevention issue.

For switch position 8, when it is set to ON in the field, the printer maybe subject to unpredictable damages and must be strictly prevented.

The factory default for each position is listed below:

Switch Position	1	2	3	4	5	6	7	8
Serial interface w/ auto cutter	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Parallel interface w/ auto cutter	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF

C. INTERNAL SWITCH

There is an extra internal 4 position DIP switch in PP-7000-III series for more technical settings. To access these setup, please first turn off the printer power and disconnect every cable from the printer. Remove 4 screws from bottom of printer and remove the plastic bottom cover with the power switch pressed. The 4 position DIP switch seats beside the 8 position DIP switch for setup window with the switch position counting starts from the nearest side to the 8 position DIP switch.

This 4 position DIP switch works as following:

Switch position		Setting Effect	
↓	**Function**	ON	OFF
1	**Factory internal setting**	Disable	Default
2	**Paper width**	58 mm	80 mm
3	**Line format**	576 dots / line	512 dots / line
4	**Reserved**	N. A.	N. A.

The Switch position 1 default set to ON. The print speed is fixed at 42.5 lines/sec.

Switch position 2 is usually set to OFF for use with 80 mm paper width. When the printer is installed with the 58 mm paper guide adaptor for use with the paper roll of 58 mm width, the switch should be set to ON in PP-7000-III & PP-7000U-III.

Switch position 3 is usually set to OFF for ESC/POS command application that prints at 512 dots / line. Only technical users shall set this switch to ON and make the printer work in the 576 dots / line format.

D. SOFTWARE COMMANDS

The Aura thermal printer supports all commands applicable to Epson printer TM-T88III. The only difference is the smoothening command in enlarged text fonts. Please visit our web site *http://www.posiflex.com* or *http://www.posiflex.com.tw* for detail

description of the supported commands if required.

1. Paper out alarm

When Paper End signal is detected, the printer keeps on intensive beeping and stops receiving data till the signal is neutralized. When Paper Near End signal is detected, the printer gives a beep every 3 seconds and stops receiving data.

2. Enhancement commands

Following commands are included in the printer firmware version since ver. 3.2:

ESC ' o' : Beep command

GS ' o' m: Beep definition (0 < m   16, default 3 seconds)

ESC 'p' m n1 n2: Cash drawer kick or kitchen bell drive command

GS 'p' m n: Beep when cash drawer remain open (0 < m < 256, n = '0' or '1')

Explanations as below:

ESC ' o' : Beep command

Hexadecimal codes are: 1B 6F

Printer beeps when this command is received per condition set by beep definition.

GS ' o' m: Beep definition (0 < m   16, default 3 seconds)

Hexadecimal codes are: 1D 6F m

This command defines length of beep as m seconds when beep command is received. When m = 0, default applies.

ESC 'p' m n1 n2: Kitchen bell drive command (m = ' 0' , 0
n1   n2   255)

Hexadecimal codes are: 1B 70 m n1 n2

This command can be used to drive a **kitchen bell** purchased from Posiflex when this printer is used as a kitchen printer and the environment could be so noisy that the beeper for reminding the kitchen staff of the printing can be not loud enough. After fixing the kitchen

bell onto say a kitchen wall, connect the cable from the bell to the peripheral connector on the printer. Then use this command with m set to 0 and both n1 and n2 set to 255. The printer will be able to drive the kitchen bell for about half a second on each such command. If this command is sent to the printer multiple times consecutively, the bell will ring for about half a second and rest for also about half a second then ring again for multiple times.

GS 'p' m n: Beep when cash drawer remain open (0 < m < 256, n = '0' or '1')

Hexadecimal codes are: 1D 70 m n

If the cash drawer connected to the printer remains open for more than m seconds, the printer beeps until the drawer is closed. If $m = 0$, this function is disabled. The factory default of the printer is set to disable this function. The parameter n in this command identifies the way cash drawer indicates drawer open status. $n = '0'$ (30H) applies to drawers giving an "open" signal when cash drawer is opened. $n = '1'$ (31H) applies to drawers giving a "short" signal when drawer is opened. Any value of the parameters outside the defined range will cause the entire command ignored.

E.   CHARACTER CODE PAGES

Aura PP-7000-III & PP-7000U-III series support all code pages and international character sets applicable to Epson printer TM-T88. There are five models for character sets application as standard model, European model, Greek model, Arabic model and Lithuanian model

Page 0 (PC437: USA for Standard / European / Greek / Arabic / Lithuanian model)

Page 1 (Katakana for Standard / Arabic / Lithuanian model)

Page 2 (PC850: Multilingual for Standard / European / Greek / Arabic / Lithuanian model)

Page 3 (PC860: Portuguese for Standard / European / Greek / Arabic / Lithuanian model)

Page 4 (PC863: Canadian-French for Standard / Arabic model)

Page 5 (PC865: Nordic for Standard / Arabic / Lithuanian model)

Page 17 (PC866: Cyrillic #2 for European / Greek model)

Page 18 (PC852: Latin II for European / Greek model)

Page 19 (PC858: Euro Dollar Sign included in PC850 for European / Greek model)

Page 253 (Greek437 as Default setting for Greek model)

Page 255 (Thai for Standard model)

Page 255 (Greek for European / Greek model)

Page 255 (PC864: Arabic as Default setting for Arabic model)

Page 255 (Lithuanian as Default setting for Lithuanian Model)

Further support to some double byte language systems can be achieved by adding each relevant font chip in standard model:

Japanese: Kanji
Korean: KCS5601
Traditional Chinese: Big 5
Simplified Chinese: GB2312

The international character sets supported in basic ASCII range include USA; France; Germany; UK; Denmark I; Sweden; Italy; Spain; Japan; Norway; Denmark II; Spain II; Latin America; Korea for character set code from 0 to D and Ex-Jugoslavia for character set code F.

If any undefined code (<00> to <1F>) or an undefined <ESC>, <FS>, or <GS> command sequence beyond these tables is received, the code or the sequence of codes will be discarded. (However, when received within image print data, character registration data, or command parameters, they are handled as ordinary data.)

The user may visit our web at *http://www.posiflex.com.tw* or *http://www.posiflex.com* for a view of the fonts in the code pages and character sets.